

WE CLAIM:

1. A method for process-variable-dependent identification signal emission for a control program selected from the group consisting of a closed-loop, open-loop and closed-loop and open-loop control program with cyclic sampling of process variables from a technical process, comprising determining a threshold value crossing time from at least two previous samples of a process variable having at least one threshold value.

2. The method according to claim 1, further comprising starting a timing mechanism with a time difference between the process variable identification and the threshold value crossing and providing the identification signal when this time difference is reached.

3. The method according to claim 2, further comprising processing a single-stage or multi-stage command sequence on the basis of one occurrence of the identification signal of the reached time difference.

4. The method according to claim 1, further comprising determining the threshold value crossing time from samples of a process variable with the aid of a mathematical approximation function.

5. The method according to claim 1, further comprising detecting characteristic values of a technical process; using the characteristic values to form a model simulation of a control path in the control program; supplying at least one

manipulated variable for the technical process to the model simulation; and determining a threshold value crossing time by the model simulation.

6. The method according to claim 5, further comprising determining the threshold value crossing time in each remaining sampling cycle using updated instantaneous values of the process variable and initializing the timing mechanism with a remaining time difference in each sampling cycle which precedes the sampling cycle in which the threshold value crossing is expected, and restarting the timing mechanism with an updated time difference in the following sampling cycles, provided that the threshold value crossing has not occurred.

7. The method according to claim 1, further comprising determining the threshold value crossing time in each remaining sampling cycle using updated instantaneous values of the process variable and initializing the timing mechanism with a remaining time difference in each sampling cycle which precedes the sampling cycle in which the threshold value crossing is expected, and restarting the timing mechanism with an updated time difference in the following sampling cycles, provided that the threshold value crossing has not occurred.